# AMBULATORY CARE CONTINUITY EXPERIENCE FOR MEDICAL HOUSESTAFF AT A LARGE MUNICIPAL HOSPITAL

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CONTINUITY of care is very difficult to provide in a municipal hospital general medical ambulatory care setting where the clinic's frustrations are magnified by administrative deficiencies and competing service and educational priorities. Such clinics are traditionally understaffed and unable adequately to coordinate the network of physicians and patients.[1-7] Ambulatory care experience is crucial in the formation of physician-patient relationships, including the development by housestaff of such interactional skills as communication, rapport building, empathy, and a humane sensitivity to the patient's psychosocial and environmental aspects.[8] We studied reasons for discontinuity of medical residents in a large municipal hospital general medical clinic and undertook corrective measures to "make the ugly duckling fly."[7]

The Queens Hospital Center is a 592-bed municipal hospital professionally affiliated with the Long Island Jewish Medical Center, a 870-bed voluntary tertiary care medical center. The patient population at the Queens Hospital Center differs considerably from that seen in most voluntary hospitals. The city hospital's patients are poor and underpriviledged, mostly from the black, Hispanic, and other minority populations of central Queens. Often they have had no prior medical care, and they tend to have diseases in advanced stages and often multiple diseases and complex problems. The hospital also serves a large immigrant population and undocumented alien population mostly from third world countries. Patients of varied cultural backgrounds, some of whom

speak little or no English, and who lack financial resources and family support structures make considerable demands both medically and personally on housestaff. It is difficult to relate to these patients, but when that relationship is obtained, the rewards are significant. Most medical housestaff, particularly at the more senior levels, where responsibility increases, find the experience extraordinarily rewarding.

With reorientation of the clinics toward a case management/primary care focus, there came keen awareness of the need to preserve a longitudinal physician-patient relationship. The adult medical clinic has achieved a 90% rate of continuity among its salaried attending physician staff, but continuity among the housestaff was much lower. Hence this study was undertaken to quantify the degree of continuity experienced by medical residents in the general medical clinic.

## Materials and Methods

A retrospective review of 203 randomly selected medical housestaff charts was conducted for four months during late 1985 and early 1986 by physicians' assistants employed in the clinic. The charts were examined to see who was assigned to the case, who actually saw the patient at any of the last two to four encounters, the date the patient was scheduled to return to the clinic, and who the patient was scheduled to see.

These data were then compared with the clinic schedule and attendance sheets for the past two years to determine whether the charts had been assigned to the appropriate resident on the correct day and whether that house officer was, in fact, in clinic on the dates in question. In addition, a prospective analysis was done to ascertain the degree to which clerical error may contribute to lack of continuity.

## Results

A total of 203 charts and 612 patient visits were reviewed during the study period. Forty-seven charts which recorded only single visits to the clinic were deleted from retrospective analysis, but were used with the others as the basis of the prospective analysis of clerical error. Thus, there were 156 charts available which contained 2 to 4 visits to the clinic per patient (565 visits in all, or an average of 3.6 visits per patient). Three hundred thirty-nine of the 565 visits (60%) were seen by the assigned house officer or team and designated as "continuous." This study deemed continuity preserved so long as the patient was seen by the resident assigned to that team. Two hundred twenty-six of the 565 visits (40%) were seen by providers other than the assigned provider and hence lacked continuity of care.

The group representing "discontinous" visits was analyzed. The rate of clerical error (76 erroneous visits) among the total appointments booked (612 visits) was 12%, a rate consistent with the rate of error derived prospectively where 29 of 192 pending appointments (15%) were made to an incorrect provider. Sixty-six percent of the observed booking errors were due to scheduling patients for an incorrect house officer. The other 34% were due to scheduling for the correct resident, but on a day when he would be absent from the clinic (e.g., vacation).

Continuity of care as a function of the number of visits made to the clinic by an individual patient was reviewed: 44% of the patients were seen by their assigned resident at least 75% of the time. Another third of the patients were seen by the same provider one half to two thirds of the time. Twenty-two percent of the patients were seen by their physician one third of the time or less, and 3 patients (2%) were never seen by their assigned house officer.

The data were also analyzed with respect to the PGY level. PGY 1, 2, 3 years demonstrated 56%, 60%, and 63% rates of continuity, respectively, not significantly different.

The "discontinuous" clinic visits were likewise analyzed by PGY level. Clerical error is a significant cause of disruption in continuity, particularly in the intern year when it accounted for more than 50% of the booking errors for this group. In the PGY 2 year, there was a fairly uniform distribution of causes of discontinuity, but the highest percentage of discontinuous visits were in the miscellaneous category, i.e., the redistribution of patients due to provider attrition.

The most common cause of disruption in continuity in the PGY 3 year was the inability because of insufficient time for the resident to see his full compliment of assigned patients (42% of all discontinous visits for this group). Because of the surprising nature of this finding, we examined it in some detail. First we reviewed the average number of patients booked to each PGY level based on a two-week period in June of 1986. The average number of patients (one new patient, the remainder "follow-up" patients) assigned to the interns and to the senior residents was 7.9. The average PGY 2 was assigned 7.4 patients. We also reviewed the attendance records of the housestaff involved in the study. The PGY 3s had the best record for "on-time" arrivals, only 12% arriving later than 30 minutes after the clinic was scheduled to begin. The PGY 2 residents had 15% average for lateness as defined above, and the interns had the worst performance, an average of 27% arriving at the clinic more than 30 minutes late.

There is a strong positive relationship between provider continuity of care and patient satisfaction.[5] Continuity of outpatient medical care results in

fewer emergent hospital admissions and shorter lengths of stay.[2] Among attributes of primary care (continuity, coordination, comprehension, availability), and of good medical practice (convenience, cost, expertise, and compassion), patients with chronic problems rank continuity of care as their highest priority.[4] Continuity of medical care impacts on physician utilization.[6]

The American Board of Internal Medicine not only encourages training of medical residents in ambulatory care,[9] but requires longitudinal clinic or primary care experience with emphasis on the continuity of patient care. Our findings were not totally unexpected. Within the group as a whole no single identifiable cause disrupted continuity of care in 40% of clinic visits over the study period. A resident's inability to see his entire patient load was just as common a reason as absence from clinic or scheduling errors. The reassignment of patients due to replaced, attrited providers played a minor role.

Some of the identified causes of decreased continuity of care seemed peculiar to particular PGY levels. Discontinuous visits in the PGY 1 year were due to clerical errors in more than half the cases. The primary reason for these "booking errors" was the fact that although the interns come to the clinic every other week, those who come on the same day of the week "share" another intern on the same team in the computerized appointment system. Because of the design of the study, it was impossible to determine to what degree this was due to pure clerical error as opposed to a conscious decision by the house officer to have the patient return to another provider. Discontinuous visits in the PGY 2 year had no single cause, but were unique in that they had the highest number of such visits due to the reassignment of unavailable physicians. There was no conscious effort by clerical staff to redirect these patients to the junior residents and we speculate that this is a chance finding.

Many "discontinuous" visits in the PGY 3 year were due to inability of the resident to see all patients assigned to him. Senior residents should be able to see more patients than more junior housestaff because of their experience although 45 minutes and 15 minutes, respectively, are allocated for new patient and follow-up visits for housestaff at all levels of training. Historically, in our clinic all levels of housestaff schedule themselves for the same number of patients per session (7.4 to 7.9 patients), and the senior residents have the lowest percentages of tardy house officers of all three groups. It appears, therefore, that PGY 3 residents spend more time per patient than do PGY 1s and PGY 2s. Whether this is due to a more difficult case mix or other factors cannot be determined from our data.

## Conclusion

Our study of continuity of patient care in a general medical clinic by medical housestaff indicated that patients repeatedly see their own physician only 60% of the time. Several easily identifiable and potentially correctable causes account for the majority of "discontinous" clinic visits. Hence, improvement in provider continuity ought to result from improved coordination of housestaff and clinic schedules, deletion of "shared" appointment systems, and more accurate targeting of patient loads. A final reason for disruption in provider continuity, the reassignment of patients whose provider of record is no longer in the clinic, is unavoidable.

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